

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No.: 10/583,348 Art Unit: 1714
Filed: 4/5/2007 Conf. No.: 9732
Title: Method for Removing Deposit from Substrate and Method for Drying
Substrate, as well as Apparatus for Removing Deposit from
Substrate and Apparatus for Drying Substrate Using these Methods

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR 1.97 & 1.98

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November 12, 2010

Sir:

Pursuant to Applicants' duty of disclosure, enclosed please find a copy of Japan Patent Application Publication No. 2002-343761. Further enclosed is Form PTO/SB/08A, listing the enclosed document.

This Information Disclosure Statement is being submitted subsequent to a first Office Action on the merits in the above-identified application, but prior to a Final Office Action, or issuance of a pending Notice of Allowance, or issuance of any other pending action closing prosecution on the merits in the above-identified application. For satisfying the requirements of 37 CFR 1.97(c), this Information Disclosure Statement is accompanied by the fee of \$180.00, as set forth in 37 CFR 1.17(p).

For satisfying the requirements of 37 CFR 1.98(a)(3)(i), the following description of the relevance of Japan Patent Application Publication No. 2002-343761 is submitted. Claim 1 of U.S. Patent Application No. 10/583,348 recites, inter alia, "discharging a fluid from the slit portion so that the fluid passes through the fluid introduction path in a condensed state, and then the condensed fluid that passes through the fluid

introduction path is led to a wall surface that is formed so as to face the front portion of the air knife assemblies or is led to collide with the fluid from the adjacent air knife assembly that operates as a wall surface, and; leading the deposit that has deposited on the substrate away from the main surface of the substrate, together with the fluid, via a fluid lead-out path which is formed between each air knife assembly and the wall surface or fluid from the adjacent air knife so that the cross section of the flow path is greater than that of the fluid introduction path, and allows the condensed fluid discharged from the fluid introduction path to disperse." Paragraph [0056] of the specification of U.S. Patent Application No. 10/583,348 discloses the following:

Meanwhile, dry air that has been discharged from air knife assemblies 10A and 10C passes through fluid introduction path 50 of which the cross sectional area of the path is extremely small between the substrate and laminar flow creating surface 15f of air knife unit 15 of air knife assemblies 10A and 10C, and the dry air that has been led to the above described wall surface is changed in the direction of the flow by this wall surface, and furthermore, the liquid that has attached to substrate 90 is led away from the main surface of substrate 90, together with the above described dry air, via fluid lead-out path 60, which is formed between air knife unit 15 and the wall surface so as to that the cross sectional area of the flow path is greater than that of fluid introduction path 50.

Paragraph [0012] of the specification of U.S. Patent Application No. 10/583,348 discloses the following:

That is to say, in this fluid introduction path, a compressed fluid flow is gained that is uniform in the direction perpendicular to the direction in which the substrate moves. Deposit on the main surface of the substrate is mixed with the fluid in the fluid introduction path, and subsequently, led to the fluid lead-out path of which the cross sectional area is greater than that of the fluid introduction path. The fluid that has spread in the fluid lead-out path moves away from the main surface of the substrate along the wall surface including fine particles.

Paragraph [0022] of the specification of U.S. Patent Application No. 10/583,348

discloses the following:

In the method for removing deposit from a substrate according to Claim 1 of the invention, a fluid on a substrate is compressed in a fluid introduction path, and then, the fluid spreads in the fluid lead-out path, and therefore, the deposit on the main surface of the substrate is converted to microscopic particles without aggregating and can be easily removed from the main surface of the substrate.

In contrast, Japan Patent Application Publication No. 2002-343761 (JP 2002-343761) discloses that a condensed fluid is jetted from rocket engine jets (38a, 40a) located at a distance from the surface of the substrate. JP 2002-343761, Abstract, and Drawings 3 and 5. Paragraph [0041] of JP 2002-343761 discloses the following

The 1st rocket engine jets 38a and the 2nd rocket engine jets 40a include the guides 66 and 68 which give predetermined directivity to compression fluid, respectively. That is, in the 1st rocket engine jets 38a and the 2nd rocket engine jets 40a. As shown in drawing 3, for example, it extends continuously toward the surface of the hard disk substrate 12 from the inside of the 1st spurting parts 38 and the 2nd spurting parts 40, the tabular guides 66 and 68 are formed, The point 66a of the guide 66 and the point 68a of the guide 68 incline in the direction which faces mutually at a proper angle. Each compression fluid which blows off from the 1st rocket engine jets 38a and the 2nd rocket engine jets 40a is given directivity which goes to an outer edge of the spot P by this.

The structure of JP 2002-343761 does not allow the condensed fluid to spread in a fluid lead out path, after passing over the substrate. Therefore, as disclosed in JP 2002-343761, the deposit does not spread in a fluid lead out path, it precipitates. JP 2002-343761 only discloses a conventional cleaning device and method for removing deposit in such a manner that it flows downstream from the fluid.

While the enclosed document is not in English, it is respectfully submitted that requirements of 37 CFR 1.98(a)(3)(ii) are satisfied by submission of an English language translation of the non-English language document.

In view of the foregoing, it is respectfully submitted that all applicable requirements of 37 CFR 1.97 and 1.98 have been satisfied in connection with the document cited in this Information Disclosure Statement. Consideration of the cited document, upon further examination of the above-identified application, is respectfully requested.

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Respectfully submitted,

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